

Access Grid Scheduling

Ivan R. Judson

June 10, 2004



Scheduling Scenarios

- Impromptu Meeting
- Regularly Scheduled Class
- Extreme Grid Programming
- Remote Collaborative Experiment
- Distributed Site Review
- Distributed Lecture with Content
 - Optional Hand-on Participation
- Project Meeting with Call-in



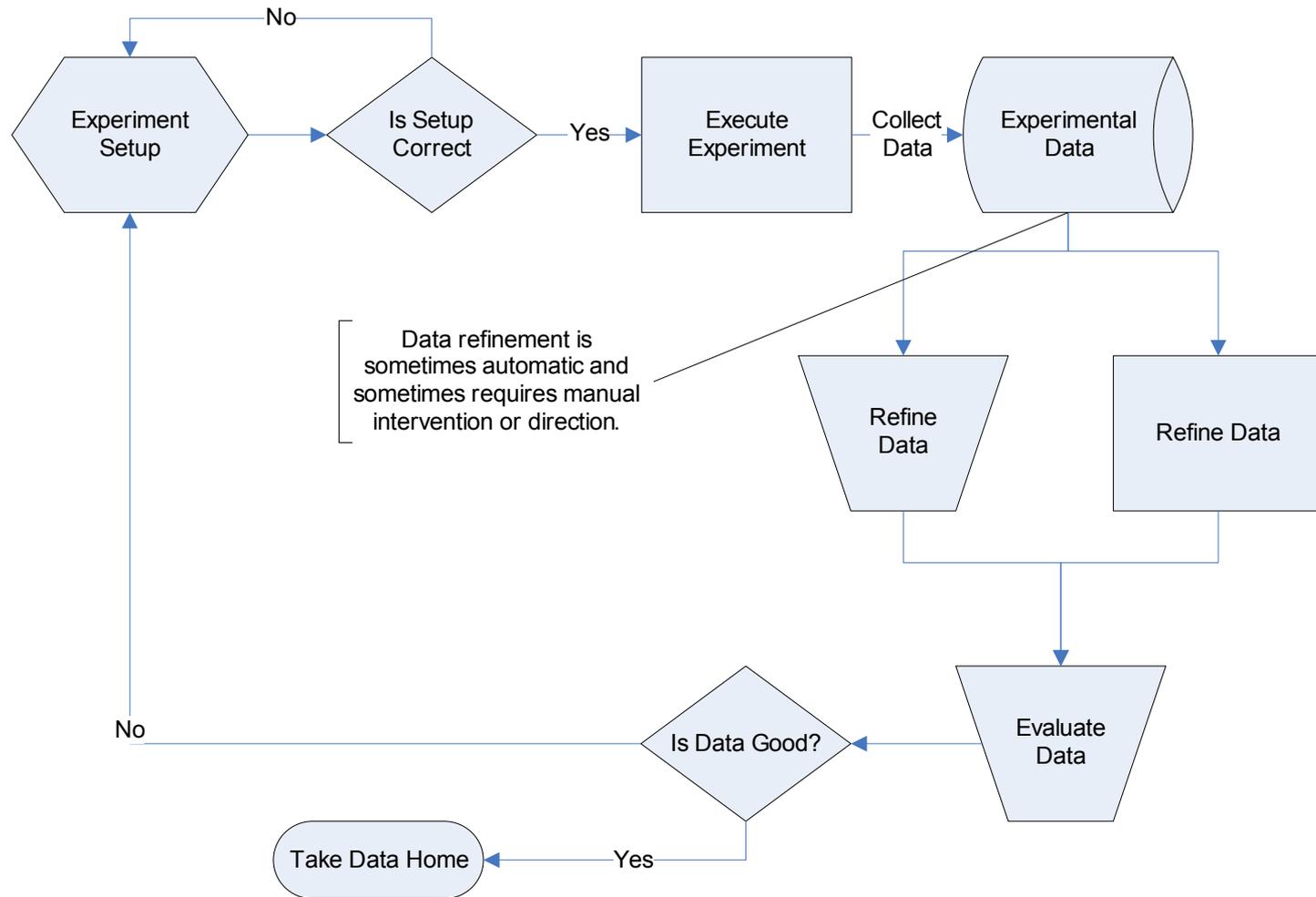
Impromptu Meeting

“Hang the ‘Do Not Disturb’ sign.”

- Participants
 - Indicate the participants do not want to be disturbed (to the venue)
- Virtual Venue
 - Check if participants have rights to schedule the virtual venue
 - Yes: indicate to the scheduling system there is now a meeting in the venue
 - No: indicate to the users they cannot schedule this venue
 - Monitor Participants, cancel meeting when participants are finished
 - When first leaves? Last?
- Scheduling System
 - Put an event on the schedule starting <now>, open ended.
 - Change entry authorization on venue
 - Cancel open meeting on schedule
 - Revert authorization on venue



Remote Collaborative Experiment



Remote Collaborative Experiment

- Physical Facility
 - Prepare Experiment
- Facility Scheduling System
 - Reserve Experiment Facilities
 - Reserve Technician Time
- Remote Locations
 - Reserve Local Meeting Spaces
- Virtual Venue
 - Reserve application execution times
 - Indicate all participants are present
- Technicians
 - Indicate Experiment Preparation is complete
 - Indicate End of Experiment Process
 - Process Data
- Local Participants (Grad Students, Collaborators)
 - Schedule Travel Arrangements
- Remote Participants (PI's, Collaborators, Grad Students)
 - View Processed Data
 - Execute Statistics on Processed Data
- AG Scheduling System
 - Reserve Virtual Venue
 - Reserve Experimental Facility via Facility Scheduler
 - Reserve Technician Time via Facility Scheduler



External Requirements

- A Web interface to scheduling
- Integrated AG security
- The ability to overbook a resource
- The ability to assign resources easily editable entries
- The ability to change other folks information if necessary
- Support recurring events
- Include the ability to cancel or modify one event in a series
- Include configurable static event type (e.g., vacation, AG meeting, demo/tour)
- Support sorting of events by multiple different parts
- Configurable automatic fill-in of events from the year before
- Support configurable email reminders



Design Thoughts

- Scheduling Interface:
 - Available on schedulable resources
 - Virtual Venue Servers
 - Node Services
 - Virtual Venue Clients
 - Application Services & Network Services in the future
- Calendar Factory:
 - Creates Calendar Services
- Calendar Service:
 - Provides an “Aggregator” for Scheduling Interfaces.
 - Publish/Subscribe model
- External Gateway
 - Provides interface to existing scheduling systems



Credits

This work has been done as part of the Global Grid Forum's Advanced Collaborative Environments research group. Contributors include:

- Jennifer Teig von Hoffman
- Michael Miller
- Eric C. Hoffer

Funding for the Access Grid Project has been provided by:

- The Department of Energy, Office of Science
- The National Science Foundation, and
- Microsoft Research

